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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,351	01/22/2002	Gert W. Bruning	US020023	9279

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,351

Applicant(s)

BRUNING ET AL.

Examiner

Jennifer T Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office action is responsive to amendment filed on 1/6/2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-13, and 17-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogoro (Pub. No.: US 2001/0013854) in view of Yamamoto et al. (U.S. Patent No. 6,313,586), cited by Applicant.

Regarding claims 1, 10, and 19, referring to Figs. 1 and 3, Ogoro teaches a liquid crystal display panel system responsive to a highlighting request comprising: a lamp (103) providing lighting to the liquid crystal display panel (101), the lamp (103) having a normal mode (i.e., character display mode) and a highlighting mode (i.e., image display mode); a power unit (i.e., battery) operatively coupled to the lamp (103), the power unit providing current to the lamp (103), the power unit being responsive to a control signal; and a user interface (105) operatively coupled to the power unit, the user interface providing the control signal to the power unit (see paragraphs [0028], [0035], [0060], and [0062]).

Ogoro differs from claims 1, 10, and 19 in that he does not specifically teach the intermediate control signal causing the power unit to increase the current to the lamp from normal mode current to an intermediate current above highlighting mode current, then to decrease the intermediate current to the highlighting mode current. However, referring to Fig. 3,

Art Unit: 2674

Yamamoto teaches intermediate control signal causing the power unit (13) to increase the current to the lamp (11) from normal mode current to an intermediate current (i.e., overcurrent) above highlighting mode current (i.e., predetermined current), then to decrease the intermediate current (i.e., overcurrent) to the highlighting mode current (i.e., predetermined current) (from col. 3, line 39 to col. 4, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the intermediate control signal causing the power unit to increase the current to the lamp from normal mode current to an intermediate current above highlighting mode current, then to decrease the intermediate current to the highlighting mode current as taught by Yamamoto in the system of Orogo in order to providing rapid highlight and reduce a stand by consumption power.

Regarding claims 2 and 11, the combination of Orogo and Yamamoto teaches the intermediate control signal causes the power unit (13) to increase the current to the lamp (11) from normal mode current to an intermediate current (i.e., overcurrent) above highlighting mode current (i.e., predetermined current) in a step change, then to decrease the current to the lamp (11) exponentially to the highlighting mode current (i.e., predetermined current) (from col. 3, line 39 to col. 4, line 21 of Yamamoto).

Regarding claims 3, 12, and 20, the combination of Orogo and Yamamoto differs from claims 3, 12, and 20 in that it does not specifically teach to hold the intermediate current for a predetermined time. However, it would have been to obtain holding the intermediate current for a predetermined time in order to increase the lamp lifetime.

Regarding claims 4, 13, and 23, the combination of Orogo and Yamamoto differs from claims 4 and 13 in that it does not specifically teach the integrated area under an intermediate

Art Unit: 2674

current-time curve is maximized for the characteristics of the lamp. However, Yamamoto teaches the intermediate current-time curve is higher than the highlighting mode characteristics of the lamp (from col. 3, line 39 to col. 4, line 21 of Yamamoto). Therefore, it would have been obvious to obtain the integrated area under an intermediate current-time curve is maximized for the characteristics of the lamp in order to provide a quick highlight and increase the lamp lifetime.

Regarding claims 8 and 17, Orogo further teaches an LC driver responsive to a highlight area control signal from the user interface; and the liquid crystal display panel (101) having a highlight section (i.e., image displaying section); wherein the LC driver controls lighting of highlight section of the liquid crystal display panel (see paragraphs [0028], [0035], [0060], and [0062]).

Regarding claims 9, 18 and 24, the combination of Cole and Yamamoto teaches a lamp output sensor monitoring light output of the lamp (11) (Fig. 2 of Yamamoto) and providing a lamp output feedback signal, the lamp output feedback signal controlling the intermediate control signal (from col. 3, line 39 to col. 4, line 21 of Yamamoto).

Regarding claims 21 and 22, the combination of Cole and Yamamoto teaches increasing current to the lamp from normal mode current further comprises increasing current by a linear increase (from col. 3, line 39 to col. 4, line 21 of Yamamoto).

Regarding claim 25, the combination of Orogo and Yamamoto differs from claim 25 in that it does not specifically teach decreasing the current to the lamp from highlighting mode current to an intermediate current below normal mode current, then to increase the intermediate

Art Unit: 2674

current to the normal mode current. However, Yamamoto teaches increasing the current to the lamp (11) from normal mode current to an intermediate current (i.e., overcurrent) above highlighting mode current (i.e., predetermined current), then to decrease the intermediate current (i.e., overcurrent) to the highlighting mode current (i.e., predetermined current) (from col. 3, line 39 to col. 4, line 21). In a similar manner, it would have been obvious to obtain decreasing the current to the lamp from highlighting mode current to an intermediate current below normal mode current, then to increase the intermediate current to the normal mode current in order to providing rapid remove the highlight section and reduce a stand by consumption power.

4. Claims 5, 6, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogoro (Pub. No.: US 2001/0013854) in view of Yamamoto et al. (U.S. Patent No. 6,313,586) and further in view Cole et al. (U.S. Patent No. 6,496,236).

Regarding claims 5 and 14, the combination of Ogoro and Yamamoto differs from claims 5 and 14 in that it does not specifically teach power supply supplying DC output voltage to an inverter, the inverter providing current to the lamp. However, referring to Fig. 2, Cole teaches that the power unit (60) supplying DC output voltage to an inverter (54), the inverter (54) providing current to the lamp (30) (col. 2, lines 19-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the power supply supplying DC output voltage to an inverter, the inverter providing current to the lamp as taught by Cole in the system of combination of Ogoro and Yamamoto in order to adjust the current to a desired current to operate the lamp.

Regarding claims 6 and 15, the combination of Ogoro, Yamamoto, and Cole further

Art Unit: 2674

teaches the power supply (60) controls the current to lamp by varying DC output voltage in response to the control signal (col. 2, lines 5-67 of Cole).

5. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogoro (Pub. No.: US 2001/0013854), Yamamoto et al. (U.S. Patent No. 6,313,586) in view Cole et al. (U.S. Patent No. 6,496,236) and further in view of Muira et al. (U.S. Patent No. 6,693,619).

Regarding claims 7 and 16, the combination of Ogoro, Yamamoto, and Cole differs from claims 7 and 16 in that it does not specifically teach the inverter controls the current to lamp by varying a current parameter pulse width modulation. However, referring to Fig. 3, Muira teaches inverter controls the current to lamp by varying a current parameter pulse width modulation (col. 3, lines 31-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the inverter controls the current to lamp by varying a current parameter pulse width modulation as taught by Muira in the system of the combination of Ogoro, Yamamoto, and Cole in order to provide a variation in shape and magnitude of the lamp versus time curve can be used to good effect.

Response to Arguments

6. Applicants' arguments filed 01/06/2004, have been fully considered but they are not persuasive because as follows:

In response to applicants' argument filed "Yamamoto fails to teach or suggest an intermediate control signal causing an increase in current to a lamp from normal mode current to an intermediate current above a highlighting mode current and then decrease to a highlighting mode current". However, Yamamoto teaches an increasing in current to a lamp (11) from predetermined current level to an overcurrent level above the predetermined current level and

Art Unit: 2674

then decrease to the predetermined current level (from col. 3, line 39 to col. 4, line 21).

Accordingly, the current level can adjust to achieve the predetermine current level more quickly.

7. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen


REGINA LIANG
PRIMARY EXAMINER